Public Pensions in Uncertain Times

Managing Unfunded Pension Liabilities in a Difficult Environment

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Actuarial Basics

- Terminology
  - **<u>Normal Cost</u>** - The annual premium required by the employer **if** all actuarial assumptions are met in the future. That is, **if** all assumptions are met, the employee's accumulated contributions, the employer's accumulated normal costs, and the accumulated investment return will completely fund all of the employee's future benefits.

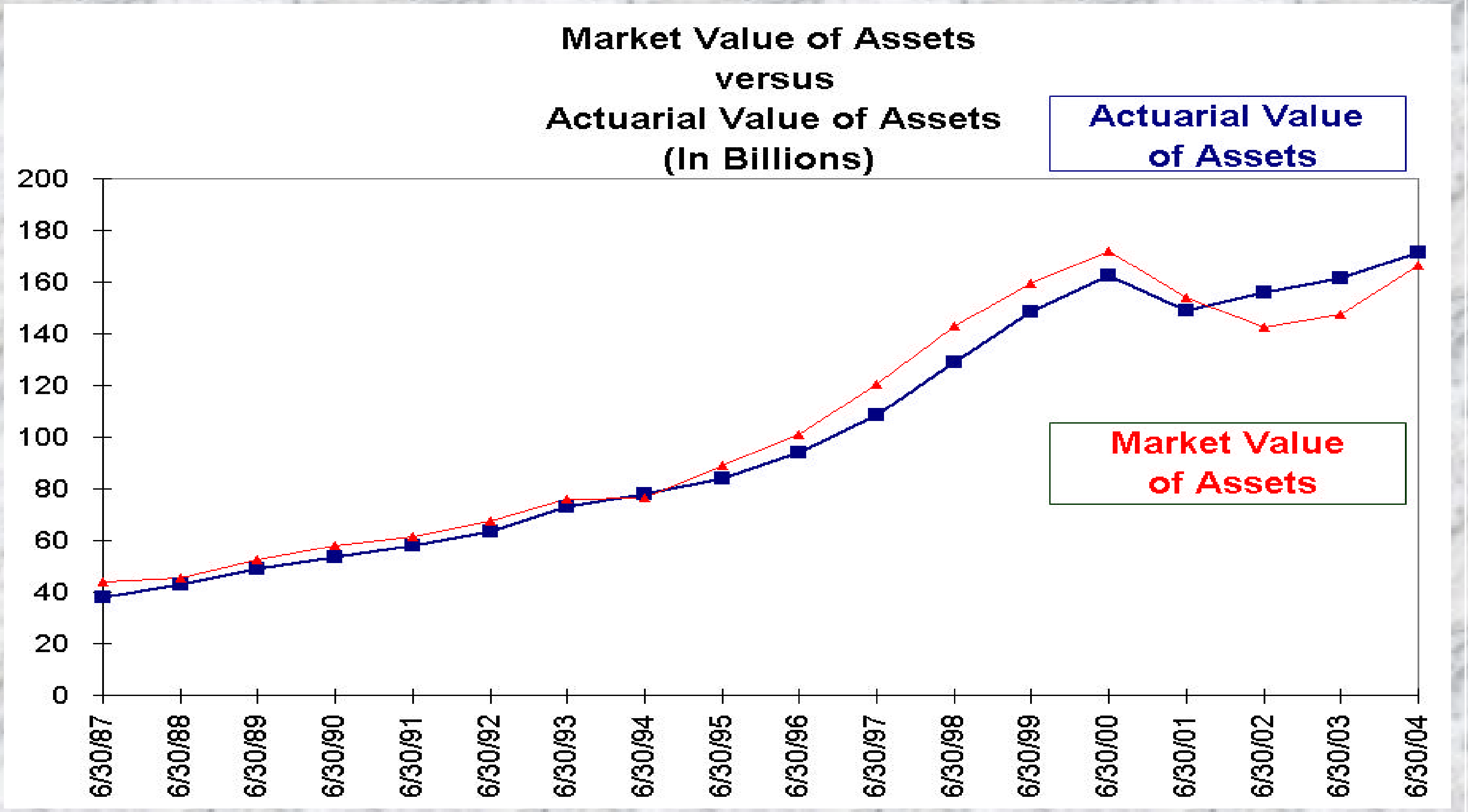
Actuarial Basics

- Terminology
  - **Accrued Liability** - The current actuarially “scheduled” sum of past employee contributions, past employer normal costs and past investment returns.
  - **Actuarial Value of Assets** (as opposed to the Market Value of Assets) - A smoothed asset value which is compared to the accrued liability to check on the plan’s current funded status and to determine the need to increase or decrease employer contributions. Smoothing is done to reduce fluctuations in employer contributions.

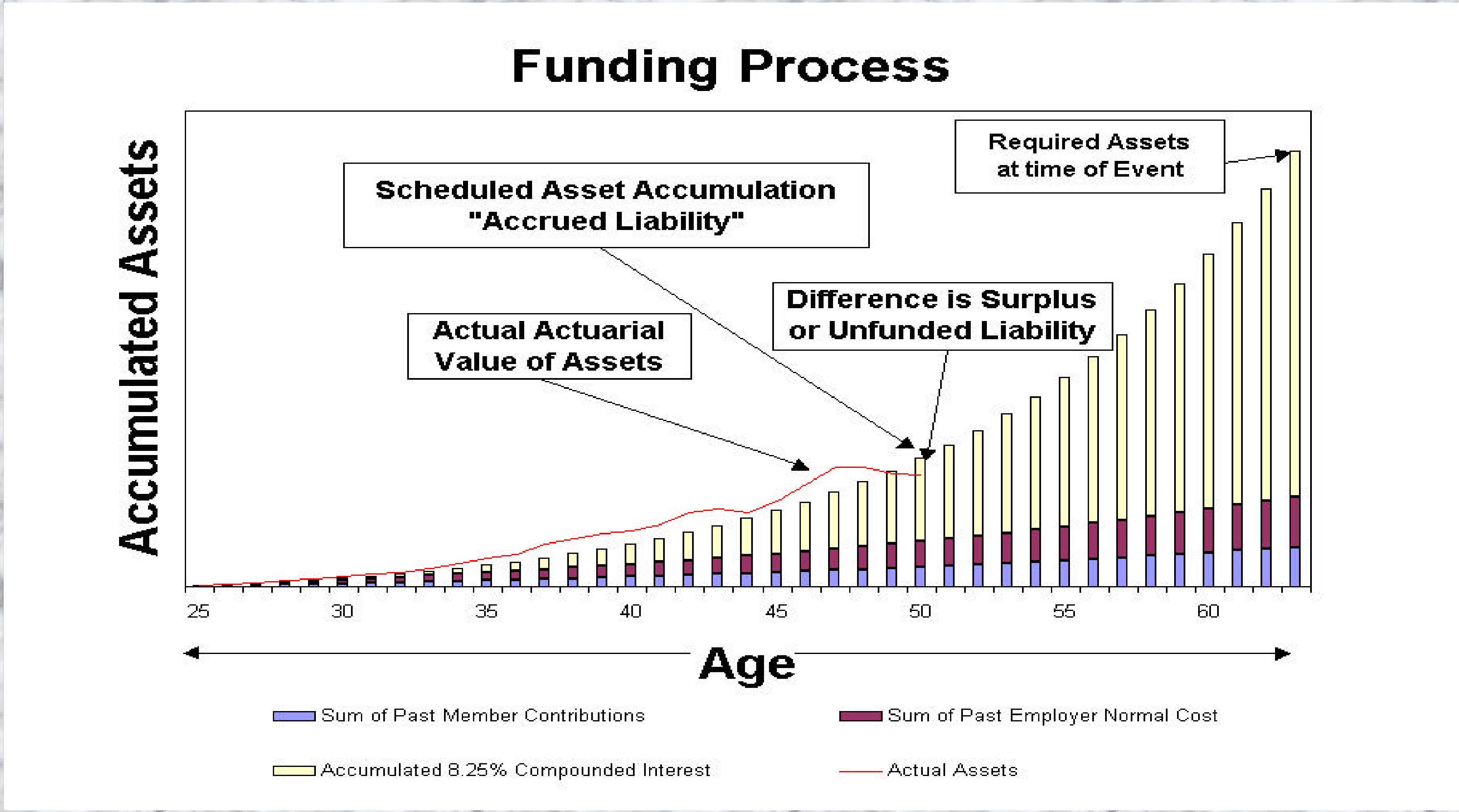
Actuarial Basics

- Terminology
  - **<u>Unfunded Accrued Liability/Surplus</u>** - The difference between the Accrued Liability and the Actuarial Value of Assets. If Assets exceed Accrued Liability, the plan is ahead of schedule in funding and employer contributions can be lowered (below normal cost). If Assets are less than Accrued Liability, the plan is behind schedule and employer contributions must be raised (above normal cost).

“Smoothed Actuarial Value of Assets”



Defined Benefit Funding

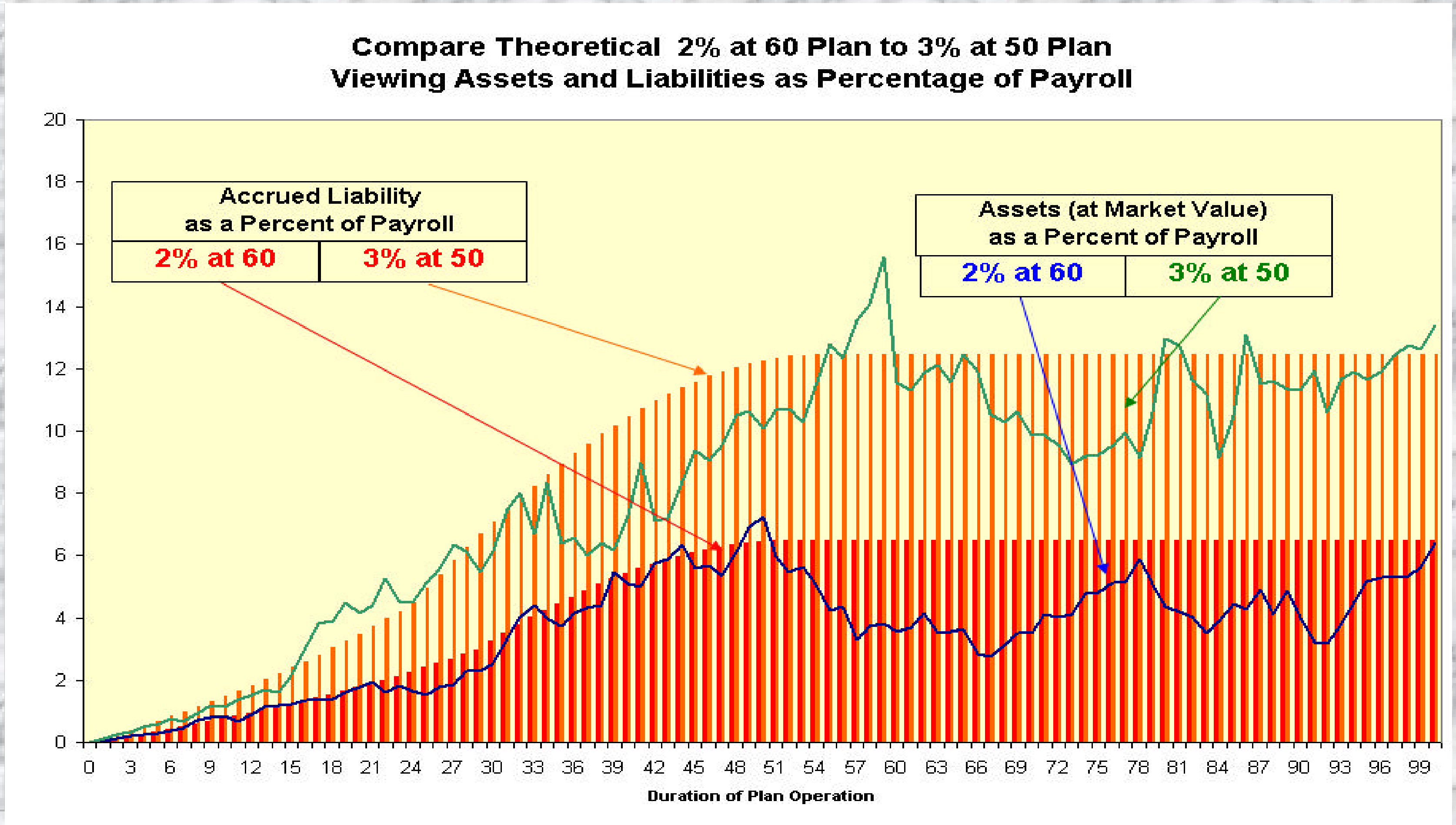


Factors Producing Uncertainty in Employer Contributions

- Liability Uncertainty:
  - “Maturity" of the plan – concept of stationary plan.
  - Age of Workforce, particularly new entrants
  - Growth in Workforce – How many terminate, become disabled, die, or retire as compared to the actuarial assumptions
  - Magnitude of salary increases as compared to the actuarial assumptions
  - Wave of benefit improvements

Concept of Plan Maturity

Assets and Liabilities a percentage of Active Member Payroll

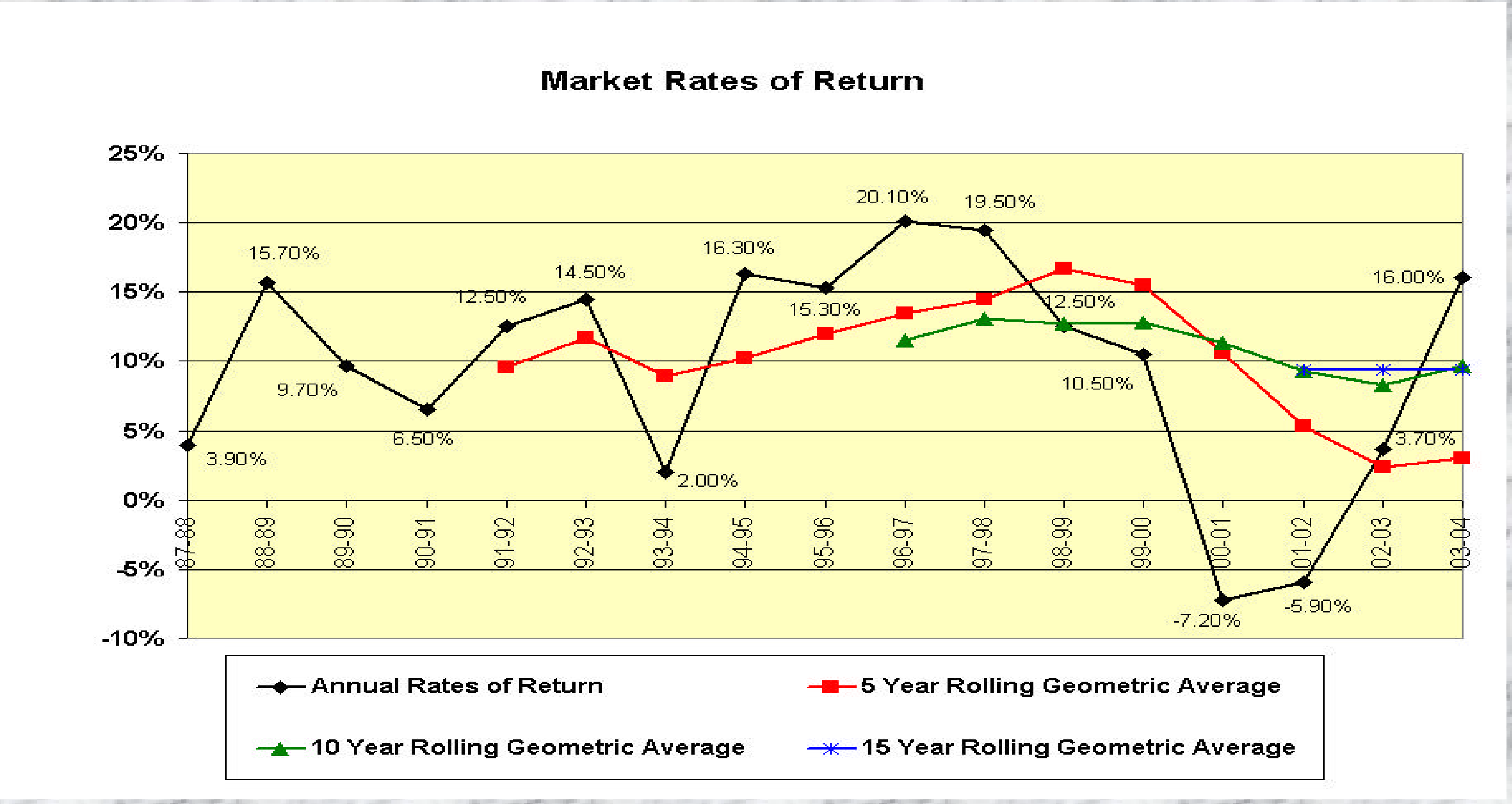


Factors Producing Uncertainty in Employer Contributions

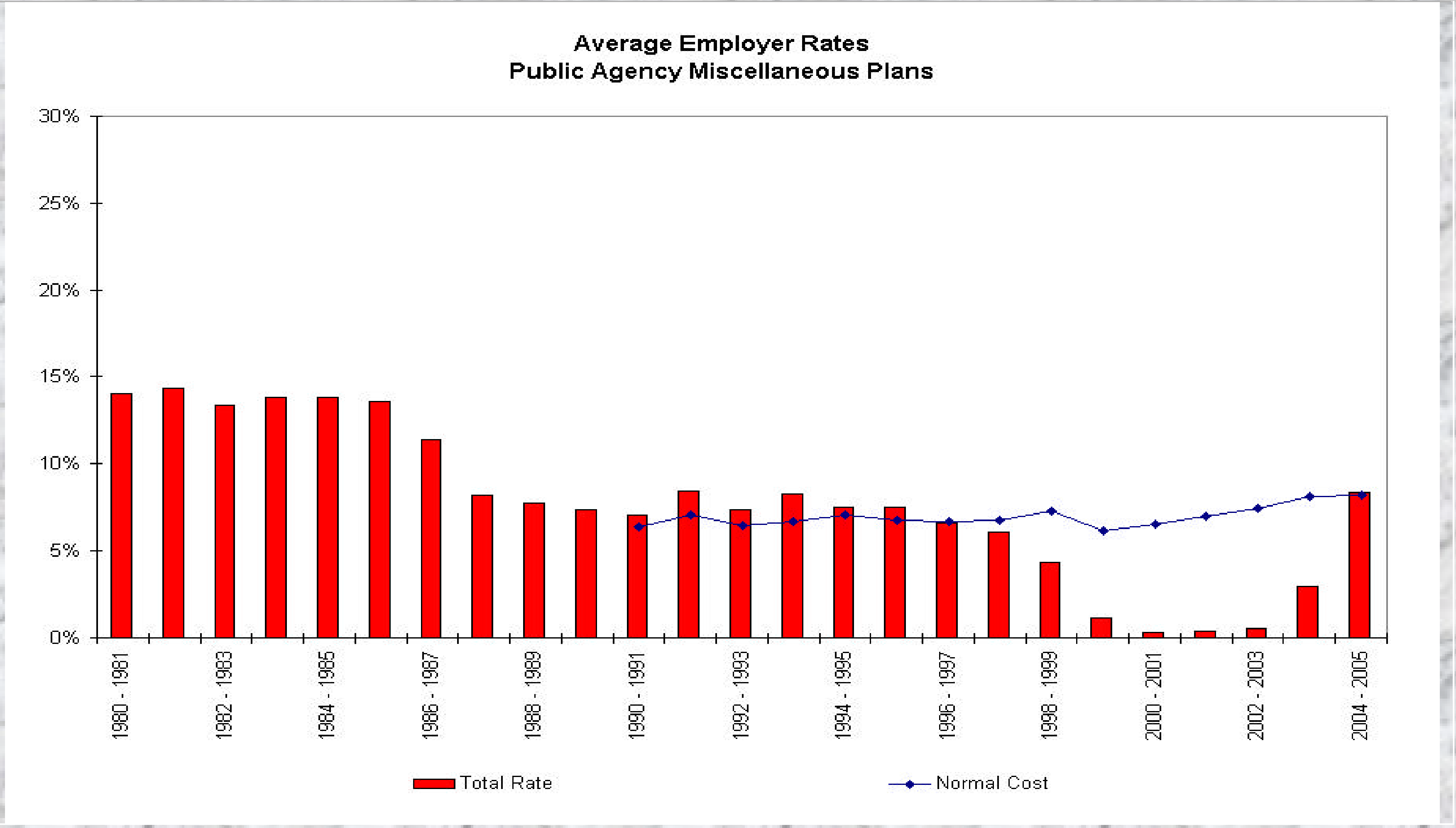
- Asset Volatility – By far, most of the increases and decreases in employer rates are caused by investment performance.
- While in the long run the average return at CalPERS will be about 8%, all one can say statistically is that 95% of the time, the annual investment return with the CalPERS asset allocation will be between -16% and +32%.

	Target Percentage
Cash Equivalents	0%
Global Fixed Income	26%
Equities	
Domestic	39%
International	19%
Direct/Partnerships	7%
Total Equities	65%
Real Estate	9%
	100%
Approximate Expected Mean Return	8%
Approximate Standard Deviation	12%

Past Investment Returns at CalPERS



Contribution History for Public Agencies



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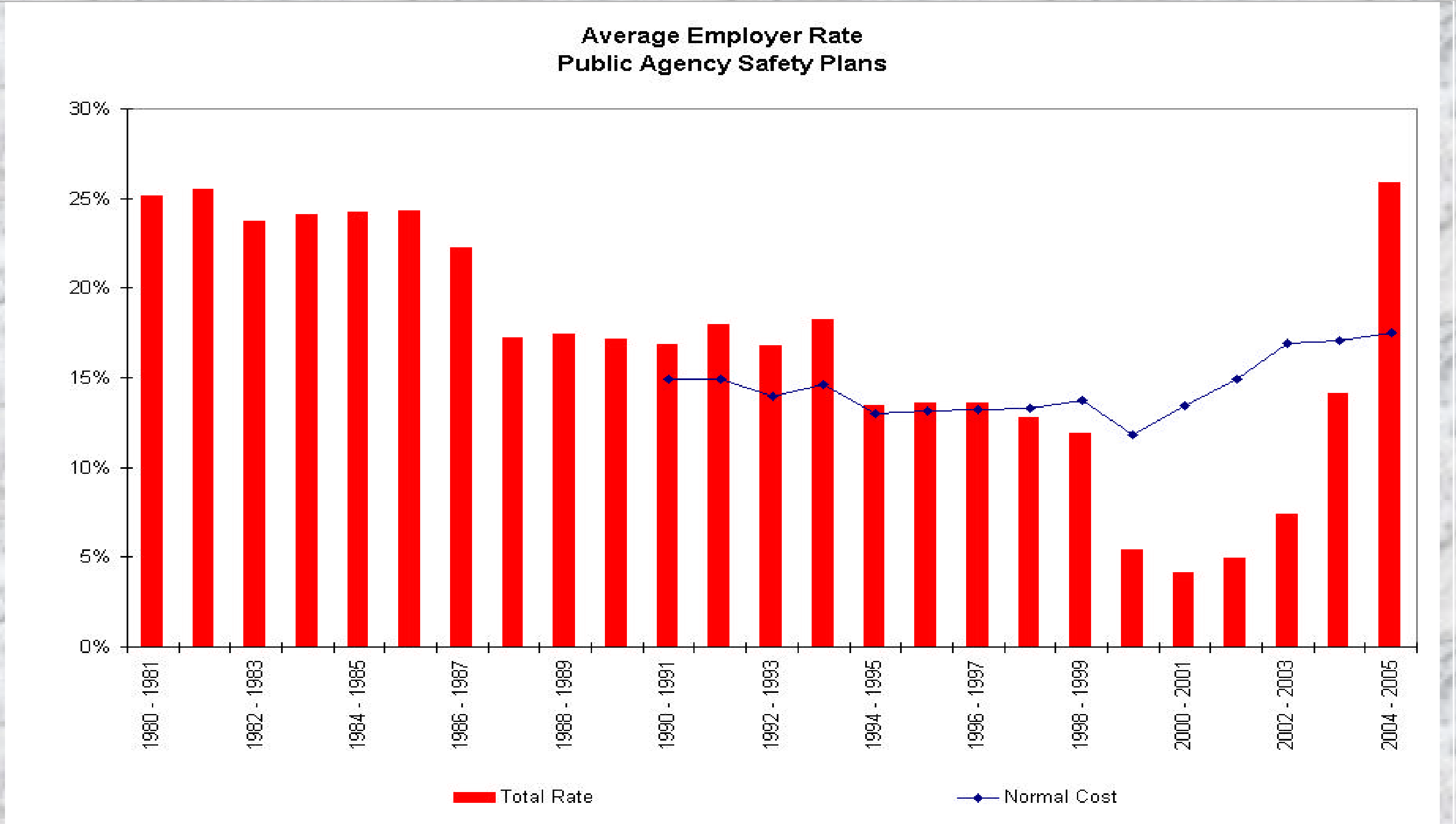

Pension Obligation Bonds

- A bond repayment schedule is fixed. As a simplified example, payments on a 20-year $1 million bond at 4.5% annual interest rate with one payment at the end of each year would have an annual end of year payment of about $76,876. This would amount to a total repayment on the $1 million over the 20 years of $1.538 million.

- We are often asked to provide a comparative 20 year payment schedule to CalPERS to pay off the unfunded liability. We could say that **if** the return on investments is exactly our assumed 7.75% each year, the unfunded liability payments on $1 million will be $99,965 annually for 20 years for a total repayment of $1.999 million. The conclusion would then be that using the pension obligation bond saves the employer $23,089 per year for 20 years or $.46 million in total.

Pension Obligation Bonds

- However, payments to CalPERS are not fixed. The unfunded liability keeps changing based on each years new actuarial analysis. Today’s unfunded liability may be tomorrow’s surplus and vice versa.
- Because the actuarial work is based on statistical models with means and standard deviations, we should describe the payments on unfunded liability in terms of confidence intervals.
- For example, to pay off a $1 million unfunded liability over 20 years, we **should** make comments like:
  - “We are 75% confident that the annual payments will average between $27,878 and $302,130 and that the total repayment will fall between $557,560 and $6,042,608.”, or
  - “We are 95% confident that that the annual payments will fall between $4,921 and $540,931 and that the total repayment will fall between $98,410 and $10,818,629”.

Other Post Retirement Benefit Obligations

- In June, 2004 the Governmental Accounting Standards Board issued Statement No. 45: Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (http://www.gasb.org/st/index.html).
- The requirements are effective in three phases based on a government's total annual revenues in the first fiscal year ending after June 15, 1999:
  - Governments with annual revenues of $100 million or more are required to implement Statement 45 in financial statements for periods beginning after December 15, 2006.
  - Governments with total annual revenues of between $10 million and $100 million are required to implement Statement 45 in financial statements for periods beginning after December 15, 2007.
  - Governments with total annual revenues of less than $10 million are required to implement this Statement in financial statements for periods beginning after December 15, 2008.
- Earlier application is encouraged.
- All component units should implement the requirements of this Statement no later than the same year as their primary government.

Other Post Retirement Benefit Obligations

- All employers contracting with CalPERS for health benefits are required to extend employer provided heath plans to retirees.
- Most public sector employers (with CalPERS or not) have never had their liabilities for these types of plans calculated.
- Many will be shocked when the do see their unfunded liabilities for the first time. However, there is no requirement to "book" the unfunded liability at the time of complying with Statement 45. Instead, the annual expense (or ARC) to be "booked" must include an amortization of this initial unfunded liability and if the employer contributes more or less than the ARC, a pre-paid expense or net accrued expense must be "booked".
- It is unclear whether this presents opportunities to use bonds or not.
- Note that, generally speaking, the tax sheltered vehicles under Federal law that could be used to accumulate assets for postemployment health plans are less than satisfactory.
- Nevertheless, Section 115 of the Internal Code is available (only to public employers) and has been used for pre-funding post retirement health plans in some states.